



## **Determination of the Changes of Drought Occurrence in Turkey Using Regional Climate Modeling**

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As a consequence of the negative impacts of climate change, Turkey, being a country in the Mediterranean Basin, is under a serious risk of increased drought conditions. In this study, it is aimed to determine and compare the spatial distributions of climatological drought probabilities for Turkey. For this purpose, by making use of Regional Climate Model (RegCM4.4) of the Abdus Salam International Centre for Theoretical Physics (ICTP), the outputs of the MPI-ESM-MR global climate model of the Max Planck Institute for Meteorology are downscaled to 50km for Turkey. To make the future projection over Turkey for the period of 2071-2100 with respect to the reference period of 1986-2005, the worst case emission pathway RCP8.5 is used. The Palmer Drought Severity Index (PDSI) values are computed and classified in accordance with the seven classifications of National Oceanic and Atmospheric Administration (NOAA). Finally, the spatial distribution maps showing the changes in drought probabilities over Turkey are obtained in order to see the impact of climate change on Turkey's drought patterns.